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Agricultural Memorandum No 1035

The European Data-set

by L D J Harvey

For a recent joint EEC/Meteorological Office project, in which Met O 8a staff were involved, it was necessary to collect meteorological data from a number of European countries. Meteorological records were purchased, bartered or gratuitously obtained from all the western European countries with data in a machineable form for a recent extensive period (ideally the last 20 to 30 years).

The main interest of the project was the effect of weather on herbage production and this has influenced the selection of individual sites in each country, although, the data-set contains a good cross-section of climatic conditions from near Arctic to Mediterranean (see Maps 1 and 2).

The original data arrived in a variety of formats and languages with differing types and frequencies of observations (see tables 1, 2 and 3). All the original data (now either in EBCDIC or 2 byte integer) are available on COSMOS. Microfiche copies are also available.

The climatic data were needed, originally, to 'drive' a computer model of herbage production. This dictated the necessity of creating a common format data-set. As the UK stations, to be used in the project, were on the Agricultural data-set it made good sense to adopt its format for the European data-set. It also had the added bonus that existing software which would run on the agricultural data-set (programs such as weekly averages, monthly averages, degree-day, glasshouse heating etc) would also run on the European data-set.

The European data-set now contains 85 stations with 4 stations possibly to be added at some future date. Simple quality control has been applied and suspect data deleted (or, where occasionally possible, corrected). The data-set is described at Appendix 1. Microfiche images of individual station's data-set contents are available in Met O 8a as too are detailed summary fiche.

It is hoped that this data-set will prove to be of interest to other agro-met research projects and may also prove useful in answering many of the questions received at Met O 8a outstations concerning the introduction into the UK of traditionally continental crops (eg maize, vines etc).

Any comments or queries on this paper should be referred to the author.

Meteorological Office, Met O 8a
London Road
BRACKNELL
Berks
December 1984

75°
70°N
65°
60°
55°
50°N
35°
30°
25°
20°
15°
10°
5°W
0°
5°E
10°
25°W
20°
15°
65°N
ICELAND
Reykjavik
Sodankyla
Lulea
Bronnoysund
Jyvaskyla
FINLAND
Jokioinen
Sundsvall
Trondheim
Gjermundnes
SWEDEN
Uppsala
Bjorkeshavg
Kisa
Karlstad
Oslo
Bergen
NORWAY
Jonkoping
Sola
Kjevik
Goteborg
Karup
Aalborg
Lund/Svalov
Tirstrup
DENMARK
Wick
Stornoway
SCOTLAND
Craibstone
East Craigs
NORTHERN IRELAND
Auchincruive
Eskdalemuir
Carlisle
Widdy Bank Fell
Silpho Moor
Cookstown
Castle Archdale
Hillsborough
Slaidburn
Clones
Claremorris
Mullingar
ENGLAND
Eelde
Den Helder
NETHERLANDS
Dublin Airport
Valley
Buxton
Terrington St Clements
REP. OF IRELAND
Birr
Bala
Loggerheads
De Bilt
Shannon Airport
Kilkenny
WALES
Wyton
Pershore
Vlissingen
Beek
Trawsgoed
Hurley
Cork Airport
Valentia
Roches Point
Swansea
Martyr Worthy
Hastings
Hawkridge
St Johns

MAP 1

55°N
50°
5°E
45°
40°
0°
5°
10°
15°
30°
35°
POLAND
Bremen
Hannover
E. GERMANY
Munster
WEST GERMANY
CZECHOSLOVAKIA
Pfaffenschlag
Nurnberg
Lille
Clervaux
Trier
Mannheim
LUXEMBOURG
Guttenbrun
St Poelten
AUSTRIA
Munchen
HUNGARY
Caen
Nancy
Bischofshofen
Seckau
Rostrenan
Orleans
St Gallen
Seefeld
Tamsweg
Graz Flugplatz
Zurich
Aarau
Scuol
Bern
Chur
Bolzano
FRANCE
SWITZERLAND
Bever
Trieste
Sanski Most
Geneve
Sion
Lugano
Milano
YUGOSLAVIA
Cognac
Clermont-Ferrand
Torino
Bologna
Skopje
Ancona
Pisa
ITALY
Pescara
Toulouse
Roma
Brindisi
CORSICA
Napoli
SPAIN
Alghero
SARDINIA
Ustica
Cagliari
Messina
BALEARIC ISLANDS
SICILY
MALTA

MAP 2

THE EUROPEAN DATA-SET

Key to Symbols

X	=	No records
✓	=	records available for whole period of the data-set
YY/✓	=	records started year 19YY
✓/YY	=	records ceased year 19YY
$\frac{Y_1Y_1}{Y_2Y_2}$	=	records for the years $19Y_1Y_1$ to $19Y_2Y_2$ only

APPENDIX 1

EUROPEAN DATA-SET

STATION NAME	NUMBER	LOCATION ALT M	LAT N	LONG	PERIOD FROM	PERIOD TO	MAXT	MINT	MIN NIGHT	MAX DIGH	MIN NIGHT	GRASS	RAINFALL 1 HRLY	RAINFALL 12 HR DAY	RAINFALL NIGHT	RAINFALL QUESTION	SUNSHINE	G MINT	STATE OF GROUND	SNOW LYING 0900	SNOW DEPTH	SNOW NEW GROW	DAYS SNOW	DAYS HAIL	DAYS THUNDER	DAYS GALE	DAYS FOG AT 0900	WINDSPEED	DRY BULB	WET BULB	DEWPOINT	RELATIVE HUMIDITY	VAP. PRESS	GLOBAL RADIATION
AUSTRIA																																		
BISCHOFSHOFEN	11275	556	47° 25'	13° 12'E	1/1/48	31/12/62	✓	✓	×	×	×		62	56	56	×	×	×	×	×	✓	×	✓	✓	×	✓	✓	✓	✓	×	×	✓	✓	✓
GRAZ FLUGPLATZ	11795	340	46° 58'	15° 26'E	1/1/50	31/12/77	✓	✓	×	×	×	×	✓	56	56	×	×	×	×	×	✓	×	To	To	×	To	To	✓	✓	×	×	To	To	✓
GUTTENBRUN	11425	828	48° 22'	15° 06'E	1/1/48	31/12/64	✓	✓	×	×	×	×	✓	✓	✓	×	×	×	×	×	✓	×	✓	✓	×	✓	✓	✓	✓	×	×	✓	✓	✓
PFAFFENSCHLAG	11402	573	48° 54'	15° 17'E	1/1/52	31/7/77	✓	✓	×	×	×	×	✓	58	58	×	×	×	×	×	✓	×	69	69	×	69	69	✓	✓	×	×	69	69	✓
ST POELTEN	11540	272	48° 11'	15° 37'E	1/1/48	31/7/80	✓	✓	×	×	×	×	✓	✓	✓	×	×	×	×	×	✓	×	To	To	×	To	To	✓	✓	72	72	✓	✓	✓
SECKAU	11753	874	47° 16'	14° 47'E	1/1/48	31/12/76	✓	✓	×	×	×	×	✓	59	59	×	×	×	×	71	✓	×	To	To	×	To	To	✓	✓	×	×	·	·	✓
SEEFELD	11125	1204	47° 20'	11° 12'E	1/1/48	31/12/77	✓	✓	×	×	×	×	✓	57	57	×	×	×	×	71	✓	×	69	69	×	69	69	✓	✓	×	50	50	59	✓
TAMSWEG	11295	1012	47° 07'	13° 48'E	1/1/49	31/12/77	✓	✓	×	×	×	×	✓	✓	✓	×	×	×	×	×	✓	×	65	65	×	65	65	✓	✓	×	65	65	65	✓
					*no data for 1970																													
					⊙no data for 1966-70																													
DENMARK																																		
AALBORG	06030	3	57° 06'	09° 52'E	1/1/53	31/12/79	✓	✓	✓	62 72	✓	62 72	✓	✓	✓	×	61	×	✓	×	55 71	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	·
KARUP	06060	36	57° 17'	09° 13'E	1/1/53	31/12/79	✓	✓	✓	62 72	✓	62 72	✓	✓	✓	×	61	×	✓	×	55 69	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	·
TIRSTRUP	06070		56° 18'	10° 37'E	1/1/59	31/12/79	✓	✓	✓	62 72	✓	62 72	✓	✓	✓	×	61	×	✓	×	69	×	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	·
FINLAND																																		
JOKIOINEN	02963	103	60° 49'	23° 29'E	1/1/61	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	×	×	✓	×
JYVASKYLA	02935	145	62° 24'	25° 41'E	1/1/61	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	×	×	✓	×
SODANKYLA	02836	180	67° 22'	26° 29'E	1/1/61	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	×	×	✓	×
FRANCE																																		
CAEN	07606	78	49° 11'	00° 27'W	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	55	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
CLERMONT-FERRAND	07206	332	45° 47'	03° 10'E	1/1/49	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	55	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
COGNAC	07807	30	45° 40'	00° 19'W	1/1/55	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
LILLE	07255	48	50° 34'	03° 06'E	1/1/49	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	56	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
NANCY	07237	225	48° 41'	06° 13'E	1/1/50	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	55	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
ORLEANS	07243	126	47° 59'	01° 45'E	1/1/49	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	55	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
ROSTRENEN	07857	262	48° 14'	03° 20'W	1/1/56	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	61	✓	×	✓	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×
TOULOUSE	07221	152	43° 38'	01° 22'E	1/1/49	31/12/80	✓	✓	×	×	×	×	✓	✓	✓	55	✓	×	55	×	×	×	×	×	×	×	×	✓	✓	×	✓	✓	✓	×

EUROPEAN DATA-SET

STATION		LOCATION			PERIOD		MAXT	MINT	MN NIGHT	MX NIGHT	MX DAY	MN DAY	RAINFALL 24hr	RAINFALL DAY	RAINFALL NIGHT	RAINFALL DURATION	SUNSHINE	G MINT	STATE OF GROUND	SNOW LYING 0900	SNOW DEPTH	SNOW NEW SNOW	DAY SNOW	DAY HAIL	DAY THUNDER	DAY GALE	DAY FOG at 0900	WINDSPEED	DRY BULB	WET BULB	DEW POINT	RELATIVE HUMIDITY	VAP. PRES	GLOBAL RADIATION
NAME	NUMBER	ALT M	LAT N	LONG	FROM	TO																													
WEST GERMANY																																			
BREMEN	10224	4	53° 03'	08° 48'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	·	·	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
HANNOVER	10338	53	52° 28'	09° 42'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	·	×	·	✓	×	×	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
MANNHEIM	10729	96	49° 31'	08° 33'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	·	×	·	✓	×	×	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
MUNCHEN	10866	527	48° 08'	11° 42'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	×
MUNSTER	10313	63	51° 57'	07° 35'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
NURNBERG	10763	310	49° 30'	11° 05'E	1/4/55	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
TRIER	10609	265	49° 45'	06° 40'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	·	×	×	✓	×	×	×	×	✓	×
HOLLAND																																			
BEEK	06380	114	50° 55'	05° 47'E	1/1/61	31/12/80	✓	✓	✓	×	✓	·	✓	✓	✓	✓	✓	×	✓	✓	✓	×	71 ✓	71 ✓	71 ✓	×	71 ✓	✓	✓	✓	✓	✓	✓	✓	64 ✓
DE BILT	06260	2	52° 06'	05° 11'E	1/1/61	31/12/80	✓	✓	✓	×	✓	·	✓	✓	✓	✓	✓	×	✓	✓	✓	×	71 ✓	71 ✓	71 ✓	×	71 ✓	✓	✓	✓	✓	✓	✓	✓	✓
DEN HELDER	06230	0	52° 55'	04° 47'E	1/1/61	31/12/80	✓	✓	✓	×	✓	·	✓	✓	✓	✓	✓	×	✓	✓	✓	×	71 ✓	71 ✓	71 ✓	×	71 ✓	✓	✓	✓	✓	✓	✓	✓	65 ✓
EELDE	06280	4	53° 08'	06° 35'E	1/1/61	31/12/80	✓	✓	✓	×	✓		✓	✓	✓	✓	✓	×	✓	✓	✓	×	71 ✓	71 ✓	71 ✓	×	71 ✓	✓	✓	✓	✓	✓	✓	✓	66 ✓
VLISSINGEN	06310	8	51° 27'	03° 36'E	1/1/61	31/12/80	✓	✓	✓	×	✓	·	✓	✓	✓	✓	✓	×	✓	✓	✓	×	71 ✓	71 ✓	71 ✓	×	71 ✓	✓	✓	✓	✓	✓	✓	✓	63 ✓
ICELAND																																			
REYKJAVIK		61	64° 08'	21° 54'W	1/1/49	31/12/80																													
REP. OF IRELAND																																			
BIRR	03065	70	53° 05'	07° 53'W	1/11/54	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	×	62 ✓	✓	×	✓	✓	✓	71 ✓
CLAREMORRIS	03070	69	53° 43'	08° 59'W	1/1/50	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	×
CLONES	03074	87	54° 11'	07° 14'W	1/1/51	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	61 ✓	✓	×	✓	✓	✓	×
CORK AIRPORT	03055	15	51° 54'	08° 29'W	1/1/62	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	✓	✓	×	✓	✓	✓	×
DUBLIN AIRPORT	03069	68	53° 26'	06° 15'W	1/11/41	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	76 80
KILKENNY	03060	67	52° 40'	07° 16'W	1/6/57	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	69 ✓
MULLINGAR	03071	108	53° 31'	07° 21'W	1/1/50	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	×
ROCHES POINT	03052	40	51° 47'	08° 14'W	1/12/55	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	×
SHANNON AIRPORT	03062	2	52° 41'	08° 55'W	1/9/45	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	×
VALENTIA	03053	9	51° 56'	10° 15'W	1/10/39	31/12/81	✓	✓	×	×	×	×	✓	✓	✓	×	✓	×	×	×	×	×	×	×	×	×	·	62 ✓	✓	×	✓	✓	✓	55 60

EUROPEAN DATA SET

3

STATION		LOCATION			PERIOD		MAXT	MINT	MIXT	TXAM	CLOUD AMT	CLOUD TYPE	SNOW DEPTH	GROUND STATE	GMIXT	GMINT	STATE OF GROUND	LYING SNOW	SNOW DEPTH	NEW SNOW	SNOW	HAIL	THUNDER	GALE	FOG AIR LYSE	WINDSPEED	DRYBULB	WETBULB	DEWPOINT	RELATIVE HUMIDITY	VAP. PRESS	GLOBAL RADIATION
NAME	NUMBER	ALT M	LAT N	LONG	FROM	TO																										
ITALY																																
ALGHERO	16520	210	40° 38'	08° 18'E	1/1/58	31/12/77*	✓	✓	✓	✓	*77	15	16	X	08	X	X	XX	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
ANCONA	16190	104	43° 37'	13° 31'E	1/1/58	31/12/77	✓	✓	✓	✓	77	15	16	✓	✓	✓	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
BOLOGNA	16140	43	44° 31'	11° 19'E	1/1/58	31/12/77*	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
BOLZANO	16020	1512	46° 50'	10° 31'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
BRINDISI	16320	15	40° 39'	17° 57'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
CAGLIARI	16560	4	39° 15'	09° 03'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
MESSINA	16420	59	38° 12'	15° 33'E	1/6/59	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
MILANO	16080	107	45° 26'	09° 17'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
NAPOLI	16289	88	40° 51'	14° 18'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
PESCARA	16230	10	42° 26'	14° 12'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
PISA	16156	40	43° 40'	11° 12'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
ROMA	16239	137	41° 48'	12° 36'E	1/1/58	31/12/77*	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
TORINO	16059	301	45° 13'	07° 39'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
TRIESTE	16110	8	45° 39'	13° 45'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
USTICA	16400	250	38° 42'	13° 11'E	1/1/58	31/12/77	✓	✓	X	X	X	X	✓	✓	✓	X	✓	X	X	X	<60	X	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓
				*	data for 1974 missing																											
LUXEMBOURG																																
CLERVAUX		454	50° 03'	06° 01'E	1/1/50	31/12/77																										
NORWAY																																
BERGEN	01317	39	60° 23'	05° 20'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	X
BJORKESHAVG	01000	324	61° 39'	07° 16'E	1/12/63	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	X
BRONNOYSUND	01111	5	65° 28'	12° 13'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	X
GJERMUNDNES	01216	49	62° 37'	07° 10'E	1/1/57	30/6/72	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	63	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	X
KISE	01382	128	60° 46'	10° 49'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	71 ✓
KJEVIK	01452	12	68° 12'	08° 05'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	72 ✓
OSLO	01492	94	59° 56'	10° 44'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	71 ✓
SOLA	01415	9	58° 53'	05° 38'E	1/1/57	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	X	X	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	X
TRONDHEIM	01258	113	63° 25'	10° 26'E	1/2/65	31/12/79	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	X	✓	✓	X	X	X	✓	✓	✓	✓	X	✓	✓	X	✓	✓	✓	71 ✓

EUROPEAN DATA-SETS

STATION		LOCATION			PERIOD		MAXT	MINT	MN NIGHT	MX NIGHT	MX DAY	MN DAY	RAINFALL				SUNSHINE	G MINT	STATE OF GROUND	LYING SNOW	SNOW DEPTH	NEW SNOW	SNOW	DAYS HAIL	THUNDER	GALE	FOG AT 1PM	WINDSPEED	DRY BULB	WET BULB	DEWPOINT	RELATIVE HUMIDITY	VAP. PRESS	GLOBAL RADIATION
NAME	NUMBER	ALT M	LAT N	LONG	FROM	TO							24 hr	DAY	NIGHT	RAINFALL DURATION																			
SWEDEN																																		
GÖTEBERG	02513	41	57°42'	11°58'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	✓	✓	✓
JÖNKÖPING	02550	92	57°46'	14°11'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	80 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	✓	✓	×
KARLSTAD	02418	46	59°22'	13°25'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	80 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	✓
LULEÅ	02186	17	65°33'	22°08'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	80 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	✓
LUND/SVALÖV	02631	50	55°43'	13°12'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	80 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	✓
SUNDSVALL	02369	35	62°24'	17°16'E	1/1/61	30/6/81	✓	✓	×	×	×	×	✓	×	×	×	80 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	✓
UPPSALA	02706	24	59°52'	17°35'E	1/1/61	31/12/81	✓	✓	×	×	×	×	✓	×	×	×	67 80	×	×	×	×	×	×	×	×	×	×	✓	×	×	×	×	✓	70 ✓
SWITZERLAND																																		
AARAU	06678	409	47°22'	08°03'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
BEYER	06985	1710	46°33'	09°55'E	1/1/58	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
BERN	06552	570	46°57'	07°26'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
CHUR	06640	582	46°51'	09°32'E	1/1/51	31/12/80	58 ✓	58 ✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
GENEVE	06844	416	46°15'	06°08'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
LUGANO	06948	275	46°00'	08°58'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
ST GALLEN	06103	670	47°26'	09°26'E	1/1/51	31/12/80	59 ✓	✓	×	×	×	×	✓	×	×	×	59 ✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
SCUOL	06993	1298	46°48'	10°17'E	1/1/51	31/12/80	72 ✓	72 ✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
SION	06752	542	46°14'	07°22'E	1/1/51	31/12/80	65 ✓	65 ✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
ZURICH	06670	556	47°23'	08°34'E	1/1/51	31/12/80	✓	✓	×	×	×	×	✓	×	×	×	✓	×	×	×	×	×	×	×	×	×	×	✓	×	×	✓	✓	✓	×
YUGOSLAVIA																																		
SANSKI MOST		158	44°46'	16°42'E	1/1/49	31/12/74																												
SKOPJE		238	41°58'	21°39'E	1/1/49	31/12/73																												

TABLE 1

DATA SUPPLIED BY CO-OPERATING COUNTRIES

STATION NAME	LOCATION			DATA FOR THE PERIOD		TYPE OF OBSERVATION					COMMENT
	ALT M	LAT N	LONG	FROM	TO	HOURLY SYNOPTIC	3 HOURLY SYNOPTIC	6 HOURLY SYNOPTIC	DAILY CLIMATE	OTHER	
AUSTRIA											
Bischofshofen	556	47° 25'	13° 12'E	1948	1962					X	Three observations per day
Graz Flugplatz	340	46° 58'	15° 26'E	1950	1977					X	
Guttenbrun	828	48° 22'	15° 06'E	1948	1968					X	
Pfaffenschlag	573	48° 54'	15° 17'E	1952	1977					X	
St Poelten	272	48° 11'	15° 37'E	1948	1980					X	
Seckau	874	47° 16'	14° 47'E	1948	1976					X	
Seefeld	1204	47° 20'	11° 12'E	1948	1977					X	
Tamsweg	1012	47° 07'	13° 48'E	1949	1977					X	
DENMARK											
Aalborg	3	57° 06'	09° 52'E	1953	1979	X	X				
Karup	36	57° 17'	09° 13'E	1953	1979	X	X				
Tirstrup	25	56° 18'	10° 37'E	1959	1979	X	X				
FINLAND											
Jokioinen	103	60° 49'	23° 29'E	1961	1980				X		Sunshine amounts 1961-80 as separate data-set
Jyvaskyla	145	62° 24'	25° 41'E	1961	1980				X		
Sodankyla	180	67° 22'	26° 29'E	1961	1980				X		No sunshine records
FRANCE											
Caen	78	49° 11'	00° 27'W	1951	1980				X		
Clermont-Ferrand	332	45° 47'	03° 10'E	1949	1980				X		
Cognac	30	45° 40'	00° 19'W	1955	1980				X		
Lille	48	50° 34'	03° 06'E	1949	1980				X		
Nancy	225	48° 41'	06° 13'E	1950	1980				X		
Orleans	126	47° 59'	01° 45'E	1949	1980				X		
Rostrenen	262	48° 14'	03° 20'W	1956	1980				X		
Toulouse	152	43° 38'	01° 22'E	1949	1980				X		
GERMANY (DBR)											
Bremen	4	53° 03'	08° 48'E	1951	1980				X		
Hannover	53	52° 28'	09° 42'E	1951	1980				X		
Mannheim	96	49° 31'	08° 33'E	1951	1980				X		
Munchen	527	48° 08'	11° 42'E	1951	1980				X		
Munster	63	51° 57'	07° 35'E	1951	1980				X		
Nurnberg	310	49° 30'	11° 05'E	1955	1980				X		
Trier	265	49° 45'	06° 40'E	1951	1980				X		

TABLE 2

DATA SUPPLIED BY CO-OPERATING COUNTRIES

STATION NAME	LOCATION			DATA FOR THE PERIOD		TYPE OF OBSERVATION					COMMENT
	ALT M	LAT N	LONG	FROM	TO	HOURLY SYNOPTIC	3 HOURLY SYNOPTIC	6 HOURLY SYNOPTIC	DAILY CLIMATIC	OTHER	
LUXEMBOURG											
Clervaux	454	50° 03'	06° 01'E	1950	1976					X	3 observations per day in manuscript
NORWAY											
Bergen	39	60° 23'	05° 20'E	1957	1979			X	X		
Bjorkeshavg	324	61° 39'	07° 16'E	1963	1979			X	X		
Bronnoysund	5	65° 28'	12° 13'E	1957	1979			X	X		
Gjermundnes	49	62° 37'	07° 10'E	1957	1972			X	X		
Kise	128	60° 46'	10° 49'E	1957	1979			X	X		Global Rad. 1971 81 in manuscript
Kjevik	12	58° 12'	08° 05'E	1957	1979			X	X		Global Rad. 1972 81 in manuscript
Oslo	94	59° 56'	10° 44'E	1957	1979			X	X		Global Rad. 19?1 81 in manuscript
Sola	9	58° 53'	05° 38'E	1957	1979			X	X		
Trondheim	113	63° 25'	10° 26'E	1965	1979			X	X		Global Rad. 1971 77 and 79-80 manuscript
SWEDEN											
Goteberg	41	57° 42'	11° 58'E	1961	1981				X		Three observations per day of wind and vap. press. Global radiation and sunshine as a separate d/s
Jonkoping	92	57° 46'	14° 11'E	1961	1981				X		
Karlstad	46	59° 22'	13° 28'E	1961	1981				X		
Lulea	17	65° 33'	22° 08'E	1961	1981				X		
Lund/Svalov	50	55° 43'	13° 12'E	1961	1981				X		
Sundsvall	35	62° 24'	17° 16'E	1961	1981				X		
Uppsala				1961	1981				X		
SWITZERLAND											
Aarau	409	47° 22'	08° 03'E	1951	1980				X		
Bever	1710	46° 33'	09° 58'E	1951	1980				X		
Bern	570	46° 57'	07° 26'E	1951	1980				X		
Chur	582	46° 51'	09° 32'E	1951	1980				X		
Geneve	416	46° 15'	06° 08'E	1951	1980				X		
Lugano	275	46° 00'	08° 58'E	1951	1980				X		
St Gallen	670	47° 26'	09° 25'E	1951	1980				X		
Scuol	1298	46° 48'	10° 17'E	1951	1980				X		
Sion	542	46° 14'	07° 22'E	1951	1980				X		
Zurich	556	47° 23'	08° 34'E	1951	1980				X		
YUGOSLAVIA											
Sanski Most	158	44° 46'	16° 42'E	1949	1974				X	X	3 observations per day
Skopje	240	41° 59'	21° 28'E	1949	1973				X	X	

TABLE 3 DATA SUPPLIED BY CO-OPERATING COUNTRIES

STATION NAME	LOCATION ALT M	LAT N	LONG	DATA FOR THE PERIOD FROM	TO	TYPE OF OBSERVATION HOURLY SYNOPTIC	3 HOURLY SYNOPTIC	6 HOURLY SYNOPTIC	DAILY CLIMATIC	OTHER	COMMENT
HOLLAND											
Beek	114	50° 55'	05° 47'E	1961	1980	X			X		
De Bilt	2	52° 06'	05° 11'E	1961	1980	X			X		
Den Helder	0	52° 55'	04° 47'E	1961	1980	X			X		
Eelde	4	53° 08'	06° 35'E	1961	1980	X			X		
ICELAND											
Reykjavik	61	65° 08'	21° 54'W	1949	1980		X				
IRELAND (REPUBLIC)											
Birr	70	53° 05'	07° 53'W	1954	1981					X	Separate datasets of:- hourly rainfall hrly global rad. hrly dry bulb temp hrly sunshine hrly Vap. press. hrly cloud, wind direction & speed and daily maxima & minima.
Claremorris	79	53° 43'	08° 59'W	1950	1981					X	
Clones	87	54° 11'	07° 14'W	1951	1981					X	
Cork Airport	15	51° 54'	08° 29'W	1962	1981					X	
Dublin Airport	68	53° 26'	06° 15'W	1941	1981					X	
Kilkenny	67	52° 40'	07° 16'W	1957	1981					X	
Mullingar	108	53° 31'	07° 21'W	1950	1981					X	
Roches Point	40	51° 47'	08° 14'W	1955	1981					X	
Shannon Airport	2	52° 41'	08° 55'W	1945	1981					X	
Valentia	9	51° 56'	10° 15'W	1939	1981					X	
ITALY											
Alghero	210	40° 38'	08° 18'E	1958	1977		X		X		Sunshine amounts & global rad.as a separate data set
Ancona	104	43° 37'	13° 31'E	1958	1977		X		X		
Bologna	43	44° 31'	11° 19'E	1958	1977		X		X		
Bolzano	1512	46° 50'	10° 31'E	1958	1977		X		X		
Brindisi	15	40° 39'	17° 57'E	1958	1977		X		X		
Cagliari	4	39° 15'	09° 03'E	1958	1977		X		X		
Messina	59	38° 12'	15° 38'E	1959	1977		X		X		
Milano	107	45° 26'	09° 17'E	1958	1977		X		X		
Napoli	88	40° 51'	14° 18'E	1958	1977		X		X		
Pescara	10	42° 26'	14° 12'E	1958	1977		X		X		
Pisa	40	43° 40'	11° 12'E	1958	1977		X		X		
Roma	137	41° 48'	12° 36'E	1958	1977		X		X		
Torino	301	45° 13'	07° 39'E	1958	1977		X		X		
Trieste	8	45° 39'	13° 45'E	1958	1977		X		X		
Ustica	250	38° 42'	13° 11'E	1958	1971		X		X		